

Am I Speeding?

DiPS CodeJam 24

Prompt

Here is a simple road:

4=====

The 4 means that I cross 4 unit distances per second. The road has 5 '=', so this means that time I need to cross the road is $\frac{5}{4} = 1.25s$.

Here is a more complex road:

3=====7=====4==

I cross 4 unit distances at 3u/s, 10 unit distances at 7u/s and 2 unit distances at 4u/s. So the time I take to cross the road is $\frac{4}{3} + \frac{10}{7} + \frac{2}{4} = 1.33 + 0.7 + 0.5 = 3.26s$. If the numbers represented the speed limits, the minimum time required to cross the road is 2.35s.

Given a road like the ones above and the time I took to cross the road, can you tell me if I was speeding?

Input Format

- The first line of the input contains an integer n , denoting the number of test cases.
- Each test case comprises of two lines – the first line contains a decimal m , denoting the time I take to cross the road, and the second line contains the road itself.

Output Format

The first and only line of your output must contain a single integer s , denoting the number of times I was speeding.

Constraints

- $10^2 \leq n \leq 10^3$
- Assume single-digit speeds.

Sample Program

```
def solve(t, road):
    actual_time = getTime(road)
    if t < actual_time:
        return True
    else:
        return False

def getTime(road):
    road_arr = []
    for i in road:
        if i.isdigit():
```

```
        road_arr.append([int(i), 0]) # speed, distance
    else:
        road_arr[-1][1]+=1
time = sum( [i[1]/i[0] for i in road_arr] )
return time
```